

Name _____ Date _____ Period _____

Boyle's Law Worksheet #1

Chemistry I

Part A: Answer the following concept questions.

1. What 2 variables does Boyle's law relate? _____ & _____
 2. If pressure is increased, what happens to volume? _____
 3. If pressure is decreased, what happens to volume? _____
 4. What is the term that is used to describe the relationship between pressure and volume? (directly proportional or inversely proportional) _____
 5. Sketch a picture of the graph of pressure vs. volume.
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6. What is the formula for Boyle's Law?
 7. What is standard temperature? _____
 8. What is standard pressure? _____
 9. What are the units for pressure?
 10. What are the units for volume?

Part B: Solve the following problems. Express your answers to 2 decimal places. Show your work! Include units.

11. What final pressure results for a gas initially at 786.0 Torr and 25.0 mL, if the final volume is 467.0 mL?

12. A gas has a volume of 190.0 mL at a pressure of 740.0 mmHg. What volume will it occupy at standard pressure?

13. What will be the volume of a gas at standard pressure if its volume is 578 mL at 94.2 kPa?

14. How much pressure is needed to change 1176 mL of a gas at 508 torr to a volume of 2300 mL?

15. What volume of a gas is needed to change a gas at 238 torr to 122 torr, if the initial volume of the gas occupies 67.0 mL?

16. How much pressure is needed to change 976 mL of a gas at 208 Torr to a volume of 3300 mL?

17. What volume of a gas is needed to change a gas at 638 Torr to 722 Torr, if the initial volume of the gas occupies 987.0 mL?